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Claims

1. Method for organizing user provided information being available in a mobile terminal device with meta-information for allowing retrieving of said user provided information;

   said method comprising:
   - obtaining said user provided information, said user provided information being obtained in consequence on any user operation on said mobile terminal device;
   - obtaining context information being associated with said user provided information;
   - assigning meta-information obtained from said context information to said user provided information; and
   - storing said user provided information and said meta-information in a history storage in order to establish an information history functionality;

   wherein said meta-information is employed for retrieval of said user provided information by matching request information provided with a retrieval request with said meta-information for selecting a user provided information being assigned to said matching meta-information.

2. Method according to claim 1, wherein said assigning comprises:
   - extracting meta-information from said context information; and
   - assigning said meta-information to said user provided information;

3. Method according to claim 1, wherein said obtaining of said user provided information comprises:
   - receiving user input information being generated by user operation of any input means and/or
   - receiving transaction information and/or communication information being received via any communication interface,

   wherein said user input information and/or transaction information and/or communication information represent said user provided information.

4. Method according to claim 1, wherein said assigning of said meta-information to said user provided information comprises:
   - extracting labeling information and/or indexing information from said context information;
   - assigning said labeling information and/or indexing information to said user provided information; and
   - storing said labeling information and/or indexing information and said user provided information;

wherein said labeling information and/or indexing information is employed as said meta-information for establishing retrieval functionality of said user input history.

5. Method according to claim 1, wherein said associating comprises:
   - generating referencing information for at least a part of said user provided information;
   - storing said referencing information in a first storage area; and
   - storing said part of said user provided information in a second storage area;
   wherein said referencing information comprises address information which allow to retrieve said part of user provided information from said second storage area.

6. Method for organizing user provided information with meta-information obtained from calendar information according to claim 1,
   said method comprising:
   - obtaining said calendar information from an electronic calendar implemented in said mobile terminal device, said calendar information representing context information;
   - matching said calendar information and said user provided information for;
   - obtaining meta-information from said calendar information; and
   - assigning said meta-information to said user provided information.

7. Method according to claim 6, wherein said obtaining of meta-information from said calendar information comprises:
   - obtaining a first time information in accordance with said user provided information;
   - obtaining a plurality of calendar entries included in said calendar information, each calendar entry comprising a second time information;
   - matching said first time information and each of said second time information for:
   - obtaining meta-information from each matching calendar entry of said plurality of calendar entries; and
   - storing said user provided information and said meta-information in said history storage in order to establish said information history functionality.

8. Method according to claim 7, wherein said obtaining of meta-information from each matching calendar entry comprises:
   - assigning a membership function to said second time information;
   - deriving a membership grade value from said membership function in accordance with said first time information; and
   - assigning said membership grade value to said user provided information;

said membership grade value defining a measure which allows to estimate a reliability for retrieval.

9. Method according to claim 7, wherein in case said first time information relates to a first period of time:
    -   partitioning said user provided information into a plurality information parts, each information part relates to a maximum pre-defined period of time, each information part being matched separately.

10. Method according to claim 7, wherein in case said first time information relates to a first period of time and said second time information relates to a second period of time; and in case said first period of time exceeds said second period of time:
    -   sectioning said user provided information into at least two information sections, one of said at least two information sections fitting with said second period of time, said one fitting information section being matched.

11. Method according to claim 7, wherein said second period of time includes certain pre-defined overhead periods of time which are appended to the beginning of said second period of time and to the ending of said second period of time.

12. Method according to claim 7, wherein each of said plurality of calendar entries being included in said calendar information is semantically structured and said obtaining of meta-information from each matching calendar entry comprises:
    -   obtaining of meta-information from each of said matching semantically structured calendar entry.

13. Method for organizing user provided audio information with meta-information according to claim 1,
    said method comprising:
    -   obtaining said user provided information including said user provided audio information and in parallel additional user provided information, said user provided audio information being recorded and stored;
    -   obtaining said context information in parallel to said user provided audio information, said context information comprising user input information generated in consequence to user action against said mobile terminal device; and
    -   generating meta-information comprising information about said additional user provided information and said context information.

14. Method according to claim 13, wherein said user input information comprises control signals related to said recording of said user provided audio information:

- on receiving a start signal: initiating said recording and storing of said user provided audio information;
- on receiving a keyword signal: initiating a recording of a user provided audio keyword information including keywords relating to said user provided audio information;
- on receiving an attach signal: associating additional information with said user provided audio information;
- on receiving a pause signal: pausing said recording and storing of said user provided audio information;
- on receiving a continue signal: resuming said recording and storing of said user provided audio information subsequently to said pausing of said recording and storing; and
- on receiving a stop signal: stopping said recording and storing of said user provided audio information and generating said recording context information.

15. Method according to claim 13, said recording context information at least including:

- information and time information about said user provided audio information;
- time information about said user input information; and
- information about said additional user provided information being associated with the user provided audio information.

16. Method according to claim 13, wherein said generating of said recording context information comprises:

- encoding said meta-information as a document being encoded in accordance with a markup language.

17. Method according to claim 13, wherein said meta-information is displayed by assigning graphical elements to each information entry included in said meta-information and predicting said graphical elements illustrating the content of the meta-information and showing associations defined in said meta-information.

18. Method for organizing user provided audio information with meta-information according to claim 1 by embedding said meta-information into said user provided audio information, said method comprising:

- providing a set of code bases representing a plurality of coding symbols, each code base of said set of code bases comprising a pre-defined number of pre-defined frequencies;

- mapping said meta-information into said a plurality of coding symbols; and
- combining said user provided audio information and said mapped meta-information by embedding said mapped meta-information into said user provided audio information.

19. Method according to claim 18, wherein said combining comprises:
   - obtaining a modulation signal from said mapped meta-information;
   - obtaining a modulated signal by combining said user provided audio information and said modulation signal in a frequency domain; and
   - obtaining said user provided audio information having embedded said meta-information by combining said modulated signal with said user provided audio information in a time domain.

20. Method according to claim 18, wherein said providing of said set of code bases comprises:
   - providing a set of code bases within a first frequency range, said first frequency range being one frequency range of a plurality of frequency ranges;
   - mapping said set of code bases into each frequency range of a plurality of frequency ranges, said plurality of frequency ranges forming a total frequency range being applicable to said user provided audio information.

21. Method according to claim 19, wherein said obtaining of said modulated signal comprises:
   - obtaining said modulated signal by multiplying said user provided audio information and said modulation signal in said frequency domain.

22. Method according to claim 19, wherein said obtaining of said user provided audio information having embedded said meta-information comprises:
   - obtaining said user provided audio information having embedded said meta-information by adding said modulation signal and said original audio signal in said time domain.

23. Method for extracting meta-information from an audio information having embedded said meta-information in accordance with claim 18,
   said method comprising:
   - providing a correlation basis comprising each frequency being included in a set of code bases representing a plurality of coding symbols, said coding symbols being employed for coding said meta-information; and
   - applying said correlation basis onto said audio information having embedded said meta-information to extract said meta-information;
   said extracted meta-information being available for retrieval.

24. Method according to claim 23, wherein said applying comprises:
   - obtaining a modulation signal from said correlation basis;
   - obtaining a correlation signal from said audio signal by convoluting said modulation signal and said audio information having embedded said meta-information in a frequency domain;
   - extracting magnitude signal values from said correlation signal, said magnitude signal values corresponding to each code basis of said set of code bases; and
   - evaluating said magnitude signal values to retrieve said meta-information from said audio information.

25. Method according to claim 24, wherein said evaluating of said magnitude signals comprises:
   - obtaining magnitude ratio values of each pair of said magnitude signal values;
   - normalizing said magnitude ratio values; and
   - evaluating said normalized magnitude ratio values of said magnitude signal values to extract said meta-information from said audio information.

26. Method according to claim 24, wherein said correlation basis being defined in a first frequency range and said obtaining of said correlation signal comprises:
   - providing a correlation basis comprising all frequencies of said set of code bases within a first frequency range of a plurality of frequency ranges;
   - mapping said correlation basis into each frequency range of a plurality of frequency ranges, said plurality of frequency ranges forming a total frequency range being applicable to said audio information to obtain said modulation signal; and
   - obtaining said correlation signal from said audio signal by convoluting said modulation signal and said audio information in said frequency domain.

27. Method for retrieving user provided information being organized according any one of the claims 1 to 26, comprising:
   - receiving a request for retrieving, said request comprising request information for instructing to retrieve certain user provided information;
   - comparing said request information with said meta-information being assinged to said user provided information which is provided by said information history functionality;
   - retrieving said user provided information being assigned to said meta-information which matches;
   - generating a response comprising said retrieved user provided information; and
   - transmitting said response.

28. Method according to claim 27, wherein said retrieving of said user provided information comprises:

-   retrieving referencing information being associated with said user provided information to be retrieved, said referencing information comprising address information which addresses said part of user provided information being stored in a second storage area; and

-   retrieving said part of user provided information from said second storage area.

29. Method according to claim 27, wherein said retrieving of said user provided information comprises:

-   evaluating said user provided information being retrieved on the basis of said membership grade values obtained from calendar entries;

said membership grade value defining a measure which allows to estimate a reliability for retrieval.

30. Method for providing storage capacity for organizing user provided information being provided with meta-information, comprising:

providing storage capacity for storing by:

-   receiving a request for storing at least a part of user provided information from a mobile terminal device performing said method for organizing user provided information with meta-information according to any one of the claims 1 to 29, said request comprising said part of user provided information and referencing information to be stored;

-   storing said part of said user provided information and said referencing information such that said part of said user provided information is retrievable in conjunction with said referencing information.

providing retrieval capability for retrieving by:

-   receiving a request for retrieving at least a part of user provided information from a mobile terminal device performing said method for organizing user provided information with meta-information according to any one of the claims 1 to 29, said request comprising referencing information;

-   retrieving said part of said user provided information in accordance with said referencing information; generating a response including said retrieved part of said user provided information; and

-   transmitting said response to said mobile terminal device.

31. Software tool for organizing and retrieving of user provided information with meta-information, comprising program portions for carrying out the operations of any one of the claims 1 to 30, when said program is implemented in a computer program for being executed on a processing device, a networked device, a networked server, a terminal device or a communication terminal device.

32. Computer program product for organizing and retrieving of user provided information with meta-information, comprising loadable program code sections for carrying out the operations of any one of the claims 1 to 30, when said computer program is executed on a processing device, a networked device, a networked server, a terminal device or a communication terminal device.

33. Computer program product for organizing and retrieving of user provided information with meta-information, wherein said computer program product is comprising program code sections stored on a computer readable medium for carrying out the method of any one of the claims 1 to 30, when said computer program product is executed on a processing device, a networked device, a networked server, a terminal device or a communication terminal device.

34. Computer data signal embodied in a carrier wave and representing a program which, when executed by a processor, causes the method of any one of claims 1 to 30 to be carried out.

35. Mobile terminal device being capable to organize user provided information with meta-information, comprising:
    - a component for obtaining said user provided information and context information being associated with said user provided information, said user provided information being obtained in consequence on any user operation against said mobile terminal device;
    - a component for assigning meta-information obtained from said context information including:
    - a storage component for a storing said user provided information and said meta-information;
    wherein said meta-information is employed for retrieval of said user provided information by matching request information provided with a retrieval request with said meta-information for selecting a user provided information being assinged to said matching meta-information.

36. Mobile terminal device being capable to organizing user provided information with meta-information obtained from calendar information according to claim 35, comprising:

- a component for obtaining said calendar information from an electronic calendar implemented in said mobile terminal device, said calendar information representing context information;
- a component for matching said calendar information and said user provided information; and
- a component for obtaining meta-information from said matching calendar information.

37. Mobile terminal device being capable for organizing user provided audio information with meta-information according to claim 35, comprising:
- a component for obtaining said user provided audio information and additional user provided information;
- a component for recording said user provided audio information;
- a storage component for storing said user provided audio information;
- a component for obtaining context information in parallel to said user provided audio information, said context information comprising user input information generated in consequence on a user action against said mobile terminal device; and
- a component for generating meta-information comprising information about said additional user provided information and said context information.

38. Mobile terminal device capable for organizing user provided audio information with meta-information according to claim 35 by embedding said meta-information into said user provided audio information, comprising:
- a set of code bases representing a plurality of coding symbols, each code base of said set of code bases comprising a pre-defined number of pre-defined frequencies;
- a component for mapping said meta-information into said a plurality of coding symbols; and
- a component for obtaining a user provided audio information having embedded said meta-information by embedding said mapped meta-information into said user provided audio information.

39. Storage device capable to provide storage capacity for organizing user provided information being provided with meta-information, comprising:
- a interface component for receiving a request for storing, for receiving a request for retrieving and for transmitting a response in consequence on said request for retrieving, wherein said request for storing is a request for storing at least a part of user provided information from a mobile terminal device performing a method for organizing user provided information with meta-information according to any one of the claims 1 to 29,

said request comprising said part of said user provided information and referencing information to be stored;

wherein said request for retrieving is a request for retrieving at least a part of user provided information from said mobile terminal device performing a method for organizing user provided information with meta-information according to any one of the claims 1 to 29, said request comprising referencing information;

- a storage component for storing said part of said user provided information and said referencing information such that said part of said user provided information is retrievable in conjunction with said referencing information;

- a component for retrieving said part of said user provided information being requested with said request for retrieving in accordance with said referencing information; and

- a component for generating a response including said retrieved part of said user provided information.